Listing and Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. **(Cancelled)**

2. **(Previously Presented)** A color system comprising:

an image capture device for capturing a scene and for providing first color image data representative thereof,

a color transformer coupled to the image capture device for transforming the first color image data to second color image data,

a first display device coupled to the color transformer, the first display device for displaying the scene as represented by the second color image data;

the system comprised by the color transformer including a processor programmed to perform a matrix operation upon the first color image data by selecting matrix elements from a look up table comprising pre-computed values;

wherein said color transformer is further comprised by operating on the first color image data (R,G,B) so as to provide second color image data (R',G',B') in accordance with the relationships:

$$R' = Mrr * Lr(R) + Mrg * Lg(G) + Mrb * Lb(B)$$
$$G' = Mgr * Lr(R) + Mgg * Lg(G) + Mgb * Lb(B)$$
$$B' = Mbr * Lr(R) + Mbg * Lg(G) + Mbb * Lb(B)$$

wherein R is a red value of said first color image, G is a green color value of said first color image, B is a blue color value of said first color image, M is a matrix operation and L is a look up table operation carried out upon red (R), green (G) and blue (B).

3. **(Previously Presented)** The color system of claim 2 wherein said color transformer is further comprised by values of R, G and B ranging between a minimum and maximum digital value.

4. **(Previously Presented)** The color system of claim 2 wherein the color transformer is further comprised by values of Lr(R), Lg(G) and Lb(B) ranging between maximum and minimum digital values.

5. **(Previously Presented)** A color system comprising:

an image capture device for capturing a scene and for providing first color image data representative thereof,

a color transformer coupled to the image capture device for transforming the first color image data to second color image data,

a first display device coupled to the color transformer, the first display device for displaying the scene as represented by the second color image data;

the system comprised by the color transformer including a processor programmed to perform a matrix operation upon the first color image data by selecting matrix elements from a look up table comprising pre-computed values,

wherein said color transformer is further comprised by a processor programmed to operate on R, G and B values to provide transformed values R', G' and B' in accordance with the relationship:

$$R' = Mrr(Lr(R)) + Mrg(Lg(G)) + Mrb(Lb(B))$$
$$G' = Mgr(Lr(R)) + Mgg(Lg(G)) + Mgb(Lb(B))$$
$$B' = Mbr(Lr(R)) + Mbg(Lg(G)) + Mbb(Lb(B))$$

wherein M is a matrix operation, Lr(R) is a Red look up value, Lg(G) is a green look up value and Lb(B) is a blue look up value.

6. **(Previously Presented)** The color system of claim 2 wherein said processor is further comprised by a 3X3 matrix operation.

7. **(Previously Presented)** A color image processing method comprising the steps of:

capturing and storing first digital color image data,

transforming said first color image data to second color image data, said transforming being based upon characteristics of a selected display device, said transforming being performed

by operating on R, G and B values of the first color image data to provide transformed values R',

G', and B' for said second color image data in accordance with:

$$R' = Mrr(Lr(R)) + Mrg(Lg(G)) + Mrb(Lb(B))$$

$$G' = Mgr(Lr(R)) + Mgg(Lg(G)) + Mgb(Lb(B))$$

$$B' = Mbr(Lr(R)) + Mbg(Lg(G)) + Mbb(Lb(B))$$

wherein R is a red value of said first color image data, G is a green color value of said

first color image data, B is a blue color value of said first color image data, M is a matrix

operation and L is a look up table operation carried out upon red (R), green (G) and blue (B),

Lr(R) is a Red look up value, Lg(G) is a green look up value, and Lb(B) is a blue look up value;

and

displaying said second color image data, wherein said first and second color image data

exhibit different display device characteristics.

8. **(Cancelled)**

9-13. **(Cancelled)**